

In the claims:

Pursuant to this amendment, please amend the claims as follows. The following list of claims replaces every proceeding list of claims.

1. (currently amended) A vascular stent graft for bypassing a portion of vascular anatomy, the vascular stent graft comprising:

a main vessel stent graft to ~~extending~~ in a vessel until it is proximate the portion of the vascular anatomy to be bypassed, the main vessel stent graft having an access port on a wall ~~that is~~ adapted to be aligned with a puncture point on a wall of the vessel;

a bypass stent graft adapted to reside in the perivascular space comprising a proximate end and a distal end;

the proximate end of the bypass stent graft to be received in the access port on the wall of the main vessel stent graft in a sealing relationship; and

the distal end of the bypass stent graft to be positioned in a sealing relationship with the vessel such that the bypass stent graft is to be positioned outside the vessel in a perivascular space to bypasses the portion of vascular anatomy.

2. (original) The vascular stent graft according to claim 1, wherein the access port on the wall of the main vessel stent graft is established by puncturing the wall of the main vessel stent graft and expanding the puncture in a controlled pattern.

3. (currently amended) The vascular stent graft according to claim 1, wherein

the access port is defined by an edge and comprises a seating surface about the edge, and

the proximate end of the bypass stent graft comprises an engaging surface, such that when the bypass stent graft is received in the access port, the seating surface and the engaging surface form a seal that inhibits blood flow into the perivascular space.

4. (original) The vascular stent graft according to claim 3, further comprising a material between seating surface and the engaging surface.
5. (original) The vascular stent graft according to claim 4, wherein the material comprises at least one of a gasket, an epoxy, a resin, an acrylic, a silicone, a glue, and a tape.
6. (original) The vascular stent graft according to claim 3 wherein at least the proximate end of the bypass stent graft comprises a shaped memory alloy such that on activation, the engaging surface engages the seating surface in a sealing relationship.
7. (original) The vascular stent graft according to claim 1, wherein the proximate end of the bypass stent graft is adapted to extend from ~~resides in~~ a first vessel to the perivascular space and the distal end of the bypass stent graft ~~resides in~~ is adapted to extend from the perivascular space to a second vessel.
8. (original) The vascular stent graft according to claim 1, further comprising a branch connecting stent coupling the main vessel stent graft and the bypass stent graft, the branch connecting stent couples the main vessel stent graft and the bypass stent graft in the sealing relationship.
9. (original) The vascular stent graft according to claim 3, wherein the proximate end of the bypass stent graft is flared.
10. (currently amended) A vascular stent graft for removing a portion of vascular anatomy from circulation but preserving circulation to branch vessels, the vascular stent graft comprising:

a main vessel stent graft, the main vessel stent graft to provide a flow path through an aneurysm of a vessel and including at least one access port on a wall adapted to be aligned with a corresponding number of branch vessels in the aneurysm;

at least one branch stent graft adapted to be placed in the branch vessel prior to placement of the main vessel stent graft; and

at least one branch connecting stent graft, wherein

each of the at least one branch connecting stent grafts received in a corresponding one of the at least one access port on a the wall of the main vessel stent graft such that a distal end of the branch connecting stent graft is adapted to resides in a branch vessel in a sealing relationship with the at least one branch stent graft and a proximate end of the branch connecting stent graft forms a sealing relationship with the access port and the branch connecting stent provides a flow path through the aneurysm.

11. (original) The vascular stent graft according to claim 10, wherein

the access port on the wall of the main vessel stent graft is formed by puncturing the wall of the main vessel stent graft and expanding the tear in a controlled pattern.

12. (original) The vascular stent graft according to claim 10, wherein

the access port is defined by an edge and a seating surface resides about the edge, and

the proximate end of the branch connecting stent graft comprising an engaging surface, such that when the branch connecting stent graft is received by the access port, the seating surface and engaging surface form the sealing relationship.

13. (original) The vascular stent graft according to claim 10, wherein the at least one branch connecting stent graft comprises a plurality of branch connecting stent grafts.

14. (original) The vascular stent graft according to claim 12, wherein at least the proximate end of the branch connecting stent graft comprises an expandable material such that the proximate end is expanded until the engaging surface and the seating surface form a sealing relationship.

15. (original) The vascular stent graft according to claim 13, wherein the proximate end of the branch connecting stent graft is flared.

16. (currently amended) A vascular stent graft for removing a portion of vascular anatomy from circulation but preserving circulation to branch vessels, the vascular stent graft comprising:

a main vessel stent graft ~~residing~~ adapted to reside in a main vessel;

at least one branch stent graft; and

a corresponding number of connecting stents, wherein

the at least one branch stent graft comprises a distal end and a proximate end, the proximate end residing about a wall of the main vessel stent graft, the proximate end having at least one radiopaque marker;

the wall of the of the main vessel stent graft being designed to form an access port for each branch stent graft such that each of the access ports are aligned with proximate end, the alignment being identifiable by the at least one radiopaque marker;

each of the connecting stents having a main vessel seating surface and a branch vessel seating surface, such that the main vessel seating surface engages the wall of the main vessel stent graft in a sealing relationship and the branch vessel seating surface engages a wall of the branch stent graft in a sealing relationship.

17. (original) The vascular graft stent according to claim 16 wherein the main vessel seating surface is flared.

18. (original) The vascular graft stent according to claim 17 wherein the branch vessel seating surface is expandable such that the branch vessel seating surface is flush with the wall of the branch stent graft.

19. (currently amended) A vascular stent graft comprising:

a first stent graft;

the first stent graft comprises a port in a wall to align with a wall of a vessel;

a second stent graft;

the second stent graft being received in the port in the wall and adpated to extended into a perivascular space to a second vessel; and

means for coupling the first stent graft and the second stent graft in a sealing relationship about the port to inhibit blood flow into a perivascular space and means for coupling the second stent graft to the second vessel to inhibit blood flow into the perivascular space.

20. The vascular stent graft according to claim 19, wherein the means for coupling includes at least one of a washer, an epoxy, a resin, a silicone, an acrylic, a glue, and a tape.